

ANSI/IEEE Std 802.1D, 1998 Edition

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(Adopted by ISO/IEC and redesignated as
ISO/IEC 15802-3:1998)

**IEEE Standard for Information technology—
Telecommunications and information exchange between systems—
Local and metropolitan area networks—
Common specifications**

Part 3: Media Access Control (MAC) Bridges

<p>Adopted by the ISO/IEC and redesignated as ISO/IEC 15802-3:1998</p>

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**LAN/MAN Standards Committee
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*bit A for Response Filed Oct. 14, 2003 (Page 1 of 2)
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- b) A Port Map consisting of a control element that specifies forwarding of frames destined for that MAC Address to a single Port.

NOTE 1—This is equivalent to specifying a single port number; hence, this specification is directly equivalent to the specification of dynamic entries in ISO/IEC 10038: 1993.

Dynamic Filtering Entries are created and updated by the Learning Process (7.8). They shall be automatically removed after a specified time, the Ageing Time, has elapsed since the entry was created or last updated. No more than one Dynamic Filtering Entry shall be created in the Filtering Database for a given MAC Address.

A Dynamic Filtering Entry shall not be created or updated by the Learning Process if any Static Filtering Entry already exists for this MAC Address with a control element specification, for the outbound Port specified by the Learning Process, that specifies forwarding or filtering irrespective of dynamic filtering information.

NOTE 2—For Bridges that do not permit the (optional) ability of Static Filtering Entries to specify forwarding or filtering on the basis of dynamic filtering information (see 7.9.1), including Bridges that conform to ISO/IEC 10038: 1993, this effectively prevents the creation of Dynamic Filtering Entries where a Static Filtering Entry exists for the same MAC Address. This in turn ensures that these Bridges continue to conform to their own specification, which prohibits creation of a Dynamic Filtering Entry if a Static Filtering Entry already exists.

For Bridges that do permit the ability of Static Filtering Entries to specify forwarding or filtering on the basis of dynamic filtering information, it is possible for Dynamic and Static Filtering Entries to exist for the same MAC Address, as long as the address is not learned on a Port for which there is a Static Filtering Entry that specifies "forwarding or filtering independently of any dynamic filtering information."

The facility provided by this updated specification allows source address learning to be confined to a subset of Ports.

Dynamic Filtering Entries cannot be created or updated by management.

If a Dynamic Filtering Entry exists for a given MAC Address, creation or updating of a Static Filtering Entry for the same address causes removal of any conflicting information that may be contained in the Dynamic Filtering Entry. If removal of such conflicting information would result in a Port Map that does not specify Forwarding on any Port, then that Dynamic Filtering Entry is removed from the Filtering Database.

The ageing out of Dynamic Filtering Entries ensures that end stations that have been moved to a different part of the Bridged LAN will not be permanently prevented from receiving frames. It also takes account of changes in the active topology of the Bridged LAN that can cause end stations to appear to move from the point of view of the bridge; i.e., the path to those end stations subsequently lies through a different Bridge Port.

The Ageing Time may be set by management (Clause 14). A range of applicable values and a recommended default is specified in Table 7-4; this is suggested to remove the need for explicit configuration in most cases. If the value of Ageing Time can be set by management, the Bridge shall have the capability to use values in the range specified, with a granularity of 1 s.

Table 7-4—Ageing time parameter value

Parameter	Recommended default value	Range
Ageing time	300.0 s	10.0–1 000 000.0 s